Attitudes, Knowledge, and Beliefs on Cancer and its Prevention in Northwestern Rural Alaska

Jenna Schmidt and Angela Gorn
University of Alaska Fairbanks, Alaska, 99775

Introduction

Rural Alaskans face unique challenges in accessibility. Most villages and cities are not connected to road systems, limiting travel between rural and urban areas. This also limits connectivity between small communities. Residents rely heavily on air travel. The accessibility of health care and education is limited due to geographical isolation of communities (State of Alaska, 2006).

Figure 1. View of a Northwestern rural Alaska city

The State of Alaska Department of Health and Social Services (2009) cites cancer as the leading cause of death in Alaska since 1993. Early detection and treatment is key as it reduces the risk of mortality due to different forms of cancer. Accessibility of cancer education, screening, treatment, and other needs are restricted by cost and the availability of transportation (State of Alaska, 2006).

This study aims to provide regionally relevant information focusing on current Northwestern rural Alaskan knowledge, beliefs, and perspectives on cancer and its prevention. Assessment of these topics will provide useful information to rural Alaskan health care providers. The information can be used by these providers to focus their resources toward needed areas. This can help in the provision of a tailored health education approach, which may increase effectiveness of educational communication to each distinct community.

Methods

A survey was taken by 178 random consenting participants from a variety of Northwestern rural villages and cities over the course of one week. The survey contained questions regarding general information and knowledge about cancer. Participants were also asked about their beliefs and attitude toward preventive care in four types of cancer:

- Lung Cancer: Smoking and Quitting
- Breast Cancer
- Colon Cancer
- Ovarian Cancer

The data resulting from the surveys was compiled and then used to generate statistics and graphs. Blank and ambiguous answers were excluded.

Figure 2. Participants from a variety of Northwestern rural Alaskan areas were surveyed

Results

Demographics:

The 178 participants of the survey came from at least 15 different Northwestern rural Alaskan communities. They ranged from ages 12 to 87. The average age of participants was 36.3, with a median age of 32. The most prevalent age reported was 19 years old. Of those, 63.3% of the participants were female, while the remaining 36.7% were males.

Demographic data shows the main ethnicity of contributors as Alaska Native, at 79.5%. The minority was comprised of a mix of ethnicities; White (13.5%), White/Alaska Native (2.3%), African American (1.1%), and an assortment of other ethnicities at 0.6%.

Knowledge of Cancer:

The survey consisted of questions from selected topics, the initial topic concerning general knowledge about cancer. A tag cloud (*Figure* 3) was generated from participant answers of what cancer meant to them.

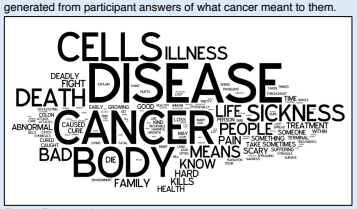

Figure 3. Tag cloud indicating word associations to cancer

Of 173 replies, 72.8% knew a relative who was diagnosed with cancer, while 27.2% did not.

Lung Cancer:

The second topic concerned smoking and the process of quitting smoking. 40.8% out of 174 participants answered that they use tobacco, and were subsequently asked to answer questions regarding tobacco use.

The prices for a pack of cigarettes ranged from $6.50 to $12.00, with an average price of $8.58. The most common price listed was $8.00; also the median and the most repeated price (*Figure 4*). Individuals smoked an average of 2.4 packs per week, with a median value of 2 and a mode of 1 (*Figure 5*).

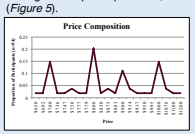

Figure 4. Price composition of packs of cigarettes

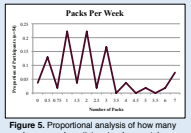

Figure 5. Proportional analysis of how many packs per week participants who use tobacco smoked

Habit and addition (74.6%) was the highest cited reason for smoking, far outweighing the second most popular choice, stress (37.3%).

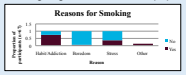

Figure 6. Participant reasons for beginning smoking

The major reason for beginning to smoke (*Figure 6*) was less distinct, with peer pressure (49.3%), environment (31.3%), and stress (28.4%) as the leading causes.

Breast Cancer:

Breast cancer and its preventative care was the next topic covered in the survey. When analyzing the data, it became apparent that a relatively large number of males responded to the prompts regarding breast cancer, slightly skewing the overall data.

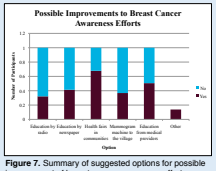

Figure 7. Summary of suggested options for possible improvement of breast cancer awareness efforts

There were many questions regarding breast cancer and topics like preventative screening. Some females did not know when to begin breast examinations and mammograms. In order to combat this, community health fairs were strongly supported as a possible improvement to breast cancer prevention awareness efforts (*Figure 7*).

Colon Cancer:

This section addressed colon cancer and related issues. Individuals were questioned about precautionary screening for colon cancer through receiving colonoscopies. Of those, 25.5% responded that they did not get a colonoscopy because it was not important to them and 80.5% of the participants believed that colonoscopies could help prevent colon cancer.

Most participants (79.5%) believed that a diet high in fruits and vegetables would contribute to colon health and protect against colon cancer. However, out of 159 participants surveyed, only 29.5% confirmed that they consumed 5 servings of fruits and vegetables per day. When asked to approximate their daily fruit and vegetable intake, the average value was 2.1 servings. The most common answer was 1.5 servings of vegetables and fruits per day.

Ovarian Cancer:

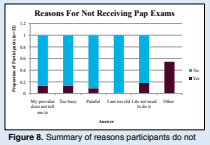

Figure 8. Summary of reasons participants do not receive pap exams

The last type of cancer discussed was ovarian cancer where 82.4% of 108 participants responded that they did receive pap exams. Reasons for not receiving a pap exam are summarized in *Figure 8*. It was found that females preferred to receive pap exam outside of their community's health care system.

General Questions:

Participants prioritized a list of options for what they thought would have the greatest impact on cancer prevention in rural Alaska (*Figure 9*).

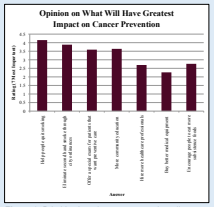

Figure 9. Prioritization of cancer prevention efforts

The average traditional native food consumed was 35.7%, with a median of 26.8% and a mode of 10% (*Figure 10*).

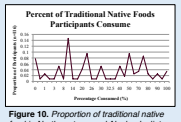

Figure 10. *Proportion of traditional native food in Northwestern rural Alaskan's diets*

Discussion

The results displayed are only a fraction of the data acquired from this study. The information on healthy lifestyles, cancer screening, reasons for not receiving screening, feedback regarding forms of education, and other topics are beneficial in determining community preferences and priorities for awareness efforts. This information can help preventative health care services with grant writing and provides feedback on successful projects and possible improvements.

Since the survey answers are also linked with demographic data, there is possible further analysis of the information, such as a comparison of towns to villages, or whether gender influences opinions and beliefs on preventative care.

Rural Alaska is unique. The culture is unique, the accessibility is unique, and the healthcare is unique. For example, tobacco prices are shown to be much higher than that of the rest of the United States. This is also true for the cost of fruits and vegetables. This could have possibly influenced the low consumption of fruits and vegetables discussed. This study also shows that some individuals substitute traditional native and subsistence foods for food one would normally purchase at a grocery store. Further studies comparing the nutritional values of consuming traditional native and subsistence foods rather than purchased food could delve further into this subject.

Literature Cited

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For Further Information

Please contact Jenna Schmidt at jenna_schmidt51789@hotmail.com or Angela Gorn at agorn@nshcorp.org.